San Francisco Bay Area Network

Inventory and Monitoring Program

The San Francisco Bay Area Network Inventory and Monitoring Program tracks the status and trends of the region's natural resources in order to improve park management through greater reliance on scientific knowledge.

Project Highlights – September 2006

How's the air up there? Clean unpolluted air is essential for all life on earth. Air quality is linked to many natural processes (e.g. soil and water nutrient cycling, photosynthesis, acidification of lakes and streams). Pinnacles National Monument and Point Reyes National Seashore of the San Francisco Bay Area Network (SFAN) are rated as Class 1 areas by the Clean Air Act and are protected by strict air quality regulations. The rest of the parks in the SFAN are Class 2 areas and pollution regulations are less strict. However, in some instances federal land managers apply the "precautionary principle" and treat Class 2 areas with the same standards as Class 1 Areas. The NPS Air Resources Information Service monitors ozone at Pinnacles National Monument and maintains a web camera to measure visibility at Point Reyes National Seashore. Follow the link to access real-time information for the parks in the network along with a regional air quality assessment. http://www1.nature.nps.gov/im/units/sfan/vital_signs/air_quality.cfm

Tidewater goby survey (excerpt from the SFAN Inventory Report)

The tidewater goby (*Eucyclogobius newberryi*), a small benthic fish found in slightly brackish coastal waters, was listed as endangered in 1994 by the U.S. Fish and Wildlife Service. The goby disappeared from nearly 50% of the coastal lagoons it once inhabited due to the introduction of non-native fish and habitat degradation. Historic records indicated that the goby was last observed in 1953 in Lagunitas Creek, which feeds into Tomales Bay. The intent of the 2002-2003 survey was to identify potentially suitable habitat for tidewater gobies along the shoreline of Tomales Bay in Golden Gate National Recreation Area and Point Reyes National Seashore and to determine the presence or absence of the goby in these habitats. In so doing, project data would provide baseline fisheries data for this area.

Maps were used to identify shallow embayments and sloughs that were fed by streams that probably had brackish water. The Tomasini Creek population represented the only remaining population of the gobies. For all the surveyed sites, a total of eleven fish species were identified. Threespine stickleback (*Gasterosteus aculeatus*) was the most frequently encountered fish both in terms of relative abundance and in distribution (Fong et al. 2004). Highest fish densities were encountered at Borello Ranch and Tomasini Creek. Two non-native fish species, Western mosquitofish (*Gambusia affinis*) and yellow fin gobies (*Acanthogobius flavimanus*), and the non-native crustacean European green crab (*Carcinus maenas*), were documented. Macrocrustaceans, reptiles and amphibians--mostly tree frogs (*Pseudacris regilla*)--were also documented.

The complete inventory report is available on the SFAN I&M Program Website:

http://www1.nature.nps.gov/im/units/sfan/index.cfm.

For more information about these and other Inventory and Monitoring Program projects, contact Marcus Koenen, Network Coordinator (Marcus_Koenen@nps.gov; 415-331-5734).